IN THE CLAIMS:

Please amend the claims as follows.

1. (Currently Amended) A multiphase ~~Multiphase~~ LC oscillator comprising N units whereby N is at least 2, and each unit performs a phase shift of 180°/N of a ~~an incoming~~ signal, whereby each unit comprises a ~~V-I~~ voltage-to-current converter ~~part~~ with a phase shift of 180°/N and an LC oscillator ~~oscillation part~~, and the multiphase LC oscillator supplies at least two outputs signals with a phase difference.

2. (Currently Amended) The multiphase ~~Multiphase~~ LC oscillator as claimed in claim 1, characterized in that each unit further comprises control means to adjust the phase shift to obtain the required phase shift of 180°/N.

3. (Currently Amended) The multiphase ~~Multiphase~~ LC oscillator as claimed in claim 2, characterized in that ~~a V-I~~ the voltage-to-current converter in at least one of the units comprises amplifiers in series with a compensation amplifier parallel.

4. (Currently Amended) A voltage-to-current ~~V-I~~ converter for use in a multiphase LC oscillator ~~according to claim 1~~, characterized in that the voltage-to-current ~~V-I~~ converter comprises compensation means to compensate for a phase shift.

5. (Currently Amended) A method ~~Method~~ to obtain multiphase signals with phase differences 180 degrees/N whereby N is at least 2, having the steps of:

receiving an incoming signal,

performing a phase shift of 180 degrees/N, wherein performing the phase shift comprises:

converting the incoming signal into a current signal having a phase shift,

providing the current signal to an LC oscillator operable to generate a first output signal, and

generating at least one additional output signal using the first output signal, and

supplying the output signals with a phase difference.

6. (New) The multiphase LC oscillator as claimed in claim 1, wherein the voltage-to-current converter in at least one of the units comprises at least two amplifiers in series and an integrator coupled between the amplifiers.

7. (New) The multiphase LC oscillator as claimed in claim 6, wherein each amplifier has no phase shift.

8. (New) The multiphase LC oscillator as claimed in claim 6, wherein:

the amplifiers comprise first amplifiers;

at least one of the first amplifiers has a phase shift; and

the voltage-to-current converter further comprises a second amplifier in parallel with the first amplifiers, the second amplifier compensating for the phase shift of the first amplifiers.

9. (New) The multiphase LC oscillator as claimed in claim 1, wherein the voltage-to-current converter in at least one of the units comprises at least two amplifiers in series and a differentiator coupled in series with the amplifiers.

10. (New) The multiphase LC oscillator as claimed in claim 1, wherein:

one of the units receives an input signal;

the at least two output signals comprise an in-phase output signal and a quadrature output signal; and

the multiphase LC oscillator further comprises an inverter having an input coupled to the quadrature output signal and an output coupled to the input signal.

11. (New) The multiphase LC oscillator as claimed in claim 1, wherein the LC oscillator in at least one of the units comprises an inductor, a capacitor, a resistor, and a parasitic resistor coupled in parallel.

12. (New) The voltage-to-current converter as claimed in claim 4, wherein the voltage-to-current converter further comprises at least two amplifiers in series and an integrator coupled between the amplifiers.

13. (New) The voltage-to-current converter as claimed in claim 12, wherein each amplifier has no phase shift.

14. (New) The voltage-to-current converter as claimed in claim 12, wherein:

the amplifiers comprise first amplifiers;

at least one of the first amplifiers has a phase shift; and

the compensation means comprise a second amplifier coupled in parallel with the first amplifiers, the second amplifier compensating for the phase shift of the first amplifiers.

15. (New) The voltage-to-current converter as claimed in claim 4, wherein the voltage-to-current converter further comprises at least two amplifiers in series and a differentiator coupled in series with the first amplifiers.

16. (New) The method as claimed in claim 5, wherein converting the voltage signal into the current signal comprises using a voltage-to-current converter, the voltage-to-current converter comprising at least two amplifiers in series and an integrator coupled between the amplifiers.

17. (New) The method as claimed in claim 16, wherein each amplifier has no phase shift.

18. (New) The method as claimed in claim 16, wherein:

the amplifiers comprise first amplifiers;

at least one of the first amplifiers has a phase shift; and

the voltage-to-current converter further comprises a second amplifier in parallel with the first amplifiers, the second amplifier compensating for the phase shift of the first amplifiers.

19. (New) The method as claimed in claim 5, wherein converting the voltage signal into the current signal comprises using a voltage-to-current converter, the voltage-to-current converter comprising at least two amplifiers in series and a differentiator coupled in series with the first amplifiers.

20. (New) The method as claimed in claim 5, wherein the LC oscillator comprises an inductor, a capacitor, a resistor, and a parasitic resistor coupled in parallel.